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United States
Department of Defense



Inadequate Contract Oversight of Military
Construction Projects in Afghanistan Resulted in
Increased Hazards to Life and Safety of
Coalition Forces

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Acronyms and Abbreviations

A-E	Architect-Engineer
AFCEC	Air Force Civil Engineer Center
AFCEE	Air Force Center for Engineering and Environment
COR	Contracting Officer's Representative
ESS	Enterprise Sourcing Squadron
FAR	Federal Acquisition Regulation
GEITA	Global Engineering, Integration, and Technical Assistance
IG	Inspector General
MILCON	Military Construction
QA	Quality Assurance
QASP	Quality Assurance Surveillance Plan
QC	Quality Control
RSOI	Reception, Staging, Onward-Movement, and Integration
SOR	Statement of Requirement
SOW	Statement of Work
TAD	Technical Assessment Directorate
TEAM	Team Integrated Engineering, Inc.
USFOR-A	U.S. Forces-Afghanistan



INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
4800 MARK CENTER DRIVE
ALEXANDRIA, VIRGINIA 22350-1500

March 8, 2013

MEMORANDUM FOR COMMANDER, U.S. FORCES-AFGHANISTAN
ASSISTANT SECRETARY OF THE AIR FORCE
(FINANCIAL MANAGEMENT AND COMPTROLLER)
DIRECTOR, AIR FORCE CIVIL ENGINEER CENTER

SUBJECT: Inadequate Contract Oversight of Military Construction Projects in Afghanistan
Resulted in Increased Hazards to Life and Safety of Coalition Forces
(Report No. DODIG-2013-052)

We are providing this report for review and comment. Air Force Center for Engineering and Environment officials did not provide effective oversight of military construction projects in Afghanistan. As a result, the life and safety of Camps Bastion/Leatherneck coalition forces who occupied the Secure Reception, Staging, Onward-Movement, and Integration facility and the Command and Control facility were at increased risk. We considered management comments on a draft of this report when preparing the final report.

DoD Directive 7650.3 requires that recommendations be resolved promptly. Comments from the Director, Joint Programs Integration Office, U.S. Forces-Afghanistan, on Recommendation 2 were responsive. However, we included an incorrect project number in draft Recommendation 2. As such, we revised Recommendation 2 to include the project number for the Secure Reception, Staging, Onward-Movement, and Integration facility. We request that the Director, Joint Programs Integration Office, U.S. Forces-Afghanistan, provide additional comments on Recommendation 2 by April 8, 2013. The Director, Air Force Civil Engineer Center did not comment on a draft of this report. We request that the Director provide comments in response to the final report by April 8, 2013.

If possible, send a Microsoft Word (.doc) file and portable document format (.pdf) file containing your comments. Portable document format (.pdf) copies of your comments must have the actual signature of the authorizing official for your organization. We are unable to accept the /Signed/ symbol in place of the actual signature. Comments provided on the draft report must be marked and portion-marked, as appropriate, in accordance with DoD Manual 5200.1. If you arrange to send classified comments electronically, you must send them over the SECRET Internet Protocol Router Network (SIPRNET).

We appreciate the courtesies extended to the staff. Please direct questions to me at (703) 604-8905 (DSN 664-8905).

A handwritten signature in cursive script, reading "Amy J. Frantz", is positioned above the typed name.

Amy J. Frantz
Principal Assistant Inspector General
for Auditing



Results in Brief: Inadequate Contract Oversight of Military Construction Projects in Afghanistan Resulted in Increased Hazards to Life and Safety of Coalition Forces

What We Did

Our objective was to determine whether the Air Force Center for Engineering and the Environment (AFCEE) provided effective oversight of construction projects in Afghanistan. We selected a nonstatistical sample of 4 of the 19 military construction projects located at Camps Bastion/Leatherneck that met our criteria to determine whether AFCEE officials properly monitored contractor performance and adequately performed quality assurance oversight responsibilities during construction.

What We Found

AFCEE Contingency Construction Division officials did not provide effective oversight of military construction projects in Afghanistan. Specifically, AFCEE officials did not develop a formal process to monitor, assess, and document the quality of work performed by contractor personnel for four projects valued at \$36.9 million. AFCEE officials stated that this occurred because they relied completely on the technical expertise of their contractor personnel. In addition, AFCEE officials stated the Federal Acquisition Regulation requirement for a quality assurance surveillance plan did not apply to architect-engineer services contracts.

As a result, AFCEE's process for developing and reviewing contract requirements design was not adequate to prevent conflicting electrical standards from being cited in one contract's Statement of Work and Statement of Requirement and incorrect fire protection standards from being cited in two contracts' Statements of Requirement used during construction. In addition, AECOM personnel at Camps Bastion/Leatherneck did not identify significant deficient work performed. The deficiencies led to serious increased hazards to the life and safety of coalition forces who occupy two of the four facilities reviewed at Camps Bastion/Leatherneck, and contributed to over a 6-month delay in government acceptance of one facility. We notified AFCEE officials of those deficiencies during a site visit to Afghanistan in

May 2012 and again during meetings held in June 2012. According to Air Force Civil Engineer Center officials, all electrical deficiencies were corrected as of October 2012. In addition, Air Force Civil Engineer Center officials stated that additional strobe lights were installed in one facility on October 15, 2012 and the fire department conducted its official fire alarm and functionality test on that same date and found no issues. Air Force Civil Engineer Center officials also stated that they planned to install additional egress doors on the second floor of one facility; however, they did not plan to install a fire suppression system in either facility.

What We Recommend

The Director, Air Force Civil Engineer Center, should develop quality assurance surveillance plans for the Title I, Title II, and Global Engineering, Integration, and Technical Assistance contract task orders and develop procedures to verify contracting officer's representatives conduct and document appropriate surveillance of contractors as called for in the quality assurance surveillance plan, to ensure that work performed is carried out in accordance with the task order requirements.

The Commander, U.S. Forces-Afghanistan and the Director should assess the life and safety hazards identified and determine the appropriate actions needed to correct the electrical hazards and fire safety and emergency egress deficiencies.

Management Comments and Our Response

The Director, Joint Programs Integration Office, U.S. Forces-Afghanistan, agreed with the report recommendation directed to U.S. Forces-Afghanistan and his comments were responsive. The Director, Air Force Civil Engineer Center, did not comment on a draft of this report. We request additional comments by April 8, 2013, as indicated in the recommendation table on page ii.

Recommendations Table

Management	Recommendations Requiring Comment	No Additional Comments Required
Commander, U.S. Forces-Afghanistan	2	
Director, Air Force Civil Engineer Center	1.a, 1.b, 2	

Please provide comments by April 8, 2013.

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Introduction

Objective

Our objective was to determine whether the Air Force Center for Engineering and the Environment¹ (AFCEE) provided effective oversight of construction projects in Afghanistan. This is one in a series of audits on contract management and oversight of military construction (MILCON) projects in Afghanistan. DoD IG Technical Assessment Directorate (TAD) engineers assisted with the audit and assessed the electrical and fire protection standards of the designated facilities at Camps Bastion/Leatherneck for compliance with applicable requirements and specifications. See the appendix for the scope and methodology and prior coverage related to MILCON in Afghanistan.

Background

AFCEE was a field operating agency for the Air Force Civil Engineer. AFCEE's mission was to provide integrated engineering and environmental management, execution, and technical services that optimize the Air Force and joint capabilities through sustainable installations. According to AFCEE, they have provided construction services in Afghanistan since 2006 and have executed over 160 task orders valued at \$2.3 billion for its customers, such as the Combined Security Transition Command-Afghanistan and U.S. Forces-Afghanistan (USFOR-A).

The 772nd Enterprise Sourcing Squadron (ESS), a unit of the Air Force Materiel Command's Enterprise Sourcing Group, provided construction and services contract support for AFCEE. The 772nd ESS awarded AFCEE MILCON and services contracts, and 772nd ESS contracting officers appointed AFCEE contracting officer's representatives (COR) to assist in the technical monitoring and administration of each contract.

AFCEE Contingency Construction Division

The AFCEE Contingency Construction Division planned, executed, and delivered contingency construction and MILCON for customer installations and commands in warfighting areas. Contingency Construction Division projects were executed typically under a design build model,² and historically consisted of both host nation and coalition military base construction projects.

The AFCEE Contingency MILCON and Minor Construction Branch was aligned with the Air Force Civil Engineer and the U.S. Army Corps of Engineers to provide execution agent services for MILCON, minor MILCON, and contingency contracting authority

¹During our audit, on October 1, 2012, the U.S. Air Force merged AFCEE, the Air Force Real Property Agency, and the Air Force Civil Engineer Support Agency to create the Air Force Civil Engineer Center (AFCEC).

²A design build contract combines design and construction in a single contract with one contractor.

execution in the U.S. Central Command (CENTCOM) area of responsibility. The AFCEE Contingency MILCON and Minor Construction Branch provided architect-engineer (A-E) services,³ including master planning, area development plans, concept and full designs, design standards, construction surveillance, and sustainable design.

MILCON projects in Afghanistan are primarily for installations and facilities that will be used by U.S. forces. AFCEE personnel executed the majority of its Afghanistan MILCON projects at Camp Bastion/Leatherneck⁴ where they executed approximately \$700 million for airfield construction and \$200 million for building and structure construction between 2009 and 2012. AFCEE employed contractors to support construction in the CENTCOM area of responsibility. Those contractors performed a variety of functions such as advisory and assistance services, A-E services, project management, construction quality assurance (QA), technical evaluations, and administrative support.

Advisory and Assistance Services

The Air Force issued Global Engineering, Integration, and Technical Assistance (GEITA) advisory and assistance services contracts in 2010 to four contractors for planning, programming, and on-site project management and administrative support at AFCEE. Three of those four contractors directly supported the Afghanistan MILCON projects we reviewed. Portage Incorporated provided project management services for MILCON projects at Camp Bastion. Booz Allen Hamilton and Team Integrated Engineering, Inc. (TEAM) provided program and project-level technical and administrative support at AFCEE San Antonio.

A-E Services

The Air Force issued contracts to 29 contractors in 2008 to perform Title I, Title II, and other A-E services to administer, coordinate, and technically support MILCON, environmental, and other programs worldwide. Title I services are a type of A-E service for project design, to include site investigations, studies, plans, specifications, and technical calculations. Title II services are also a type of A-E service and include the inspection or observation of construction operations. Other A-E services are design and construction-related but are not connected with a specific construction project. For example, other A-E services can include engineering and feasibility studies, technical investigations, technical reports and surveys, and environmental impact studies and statements.

³A-E services are professional services of an architectural or engineering nature associated with design or construction of real property; that logically or justifiably require performance by registered architects or engineers or their employees; or which state law requires to be performed or approved by a registered architect or engineer.

⁴Camp Bastion and Camp Leatherneck are adjacent to each other in southwest Afghanistan. Camp Bastion is under the command of British forces and Camp Leatherneck is under the command of U.S. forces.

The Air Force issued A-E services contract task orders to AECOM Technical Services, Inc. (AECOM) for Title I planning and design services that would support AFCEE's end customers in developing construction project requirements. AECOM personnel performed Title I services that included all aspects of design, such as preparation or review of contract plans, specifications, scheduling, cost estimates, building commissioning services, and preparation of operating and design manuals. These services consisted of conducting field surveys and investigations to obtain design data, as well as preparing contract plans, specifications, cost estimates, and estimated construction periods of performance. During the contract pre-award phase, AFCEE officials tasked AECOM personnel with collecting requirements data and developing the contract Statement of Requirement (SOR) for MILCON projects.

AFCEE officials also contracted with AECOM to provide Title II construction supervision and inspection services for the design and construction of MILCON projects in Afghanistan. The contracted services included performing design and material submittal review of all construction contractor submittals, construction QA, and field oversight and inspection of the construction contractors in Afghanistan. AECOM was responsible for implementing a QA plan to assure that the MILCON contractor was fulfilling its obligations under the contract.

MILCON Projects at Camps Bastion/Leatherneck

In January 2012, AFCEE officials provided us with a list of 19 MILCON projects, which AFCEE administered at Camps Bastion/Leatherneck for U.S. forces. Each of those projects was valued at over \$5 million and the total estimated program amount for those 19 projects was about \$474.5 million. For our review, we selected a nonstatistical sample of 4 of the 19 MILCON projects that were located at Camps Bastion/Leatherneck. The table below lists the MILCON projects we reviewed as well as their project value.

**Table 1. Camps Bastion/Leatherneck MILCON Projects
Reviewed Totaling \$36.9 Million**

Construction Project	Contract Number	Project Value (millions)
Role 3 Medical Facility Expansion	FA8903-06-D-8511-068	\$4.6*
Rotary Wing Parking	FA8903-06-D-8511-076	10.6
Command and Control Facility	FA8903-06-D-8507-025	13.7
Secure Reception, Staging, Onward-movement, and Integration (RSOI) Facility	FA8903-06-D-8505-024	8.0
Total		\$36.9

*We selected projects based on their estimated program amount. The values listed in the table represent the project's contract value. The estimated program amount for the Role 3 Medical Facility Expansion was \$16.5 million when we selected our sample.

Review of Internal Controls at AFCEE

DoD Instruction 5010.40, “Managers’ Internal Control Program (MICP) Procedures,” July 29, 2010, requires DoD organizations to implement a comprehensive system of internal controls that provides reasonable assurance that programs are operating as intended and to evaluate the effectiveness of the controls. We identified internal control weaknesses at the AFCEE San Antonio and Camps Bastion/Leatherneck offices. Specifically, AFCEE officials did not develop quality assurance surveillance plans (QASP) to monitor and assess work performed by AECOM and GEITA personnel to ensure they met the technical requirements of the contracts. This occurred because they relied completely on the technical expertise of their contractor personnel, and AFCEE officials stated the Federal Acquisition Regulation (FAR) requirement for a QASP did not apply to A-E services contracts. We will provide a copy of the report to the senior official responsible for internal controls in the Air Force.

Finding. Inadequate Oversight of MILCON in Afghanistan

AFCEE Contingency Construction Division officials did not provide effective oversight of MILCON projects in Afghanistan. Specifically, AFCEE officials did not develop a formal process to monitor, assess, and document the quality of work performed by AECOM, TEAM, Booz Allen Hamilton, and Portage personnel for four projects valued at \$36.9 million. AFCEE officials stated that this occurred because they relied completely on the technical expertise of their contractor personnel. In addition, AFCEE officials stated the FAR requirement for a QASP did not apply to A-E services contracts.

As a result, AFCEE's process for developing and reviewing contract requirements design was not adequate to prevent conflicting electrical standards from being cited in one MILCON contract's Statement of Work (SOW) and SOR and incorrect fire protection standards from being cited in two contracts' SORs used during construction. In addition, AECOM personnel at Camps Bastion/Leatherneck did not identify significant deficient work performed. The deficiencies led to serious increased hazards to the life and safety of coalition forces who occupy two of the four facilities reviewed at Camps Bastion/Leatherneck, and contributed to over a 6-month delay in government acceptance of one facility.

Contract Oversight and Construction Requirements

The FAR contains the policies and procedures for contract surveillance and oversight. FAR Part 46, "Quality Assurance," prescribes policies and procedures to ensure that services acquired under government contract conform to the contract's quality and quantity requirements.⁵ FAR Subpart 46.4, "Government Contract Quality Assurance," states that QASPs should be prepared in conjunction with the statement of work and should specify all work requiring surveillance and the method of surveillance. Among its terms, FAR 46.102, "Policy," requires that agencies ensure services tendered by contractors meet contract requirements, and Government quality assurance is conducted before acceptance, by or under direction of Government personnel. According to FAR Subpart 1.6, "Career Development, Contracting Authority, and Responsibilities," a COR assists in the technical monitoring or administration of a contract.

In addition, CENTCOM Regulation Number 415-1, "Construction and Base Camp Development in the USCENTCOM Area of Responsibility," (the Sand Book) establishes responsibilities and procedures for the planning and development of contingency and permanent base camps as well as establishes standards for facility design, development, sustainment, and safety. Further, Unified Facilities Criteria guidance provides planning, design, construction, sustainment, restoration, and modernization criteria, and applies to

⁵When A-E services contracts are involved, FAR Part 36, "Construction and A-E Contracts," takes precedence over other FAR requirements where inconsistencies arise. We found no inconsistencies between FAR Part 36 and the applicable provisions of FAR Part 46.

the Military Departments, the Defense Agencies, and the DoD Field Activities. Lastly, the National Fire Protection Association develops, publishes, and disseminates more than 300 consensus codes and standards intended to minimize the possibility and effects of fire and other risks. The National Fire Protection Association codes and standards applied to the contracts we reviewed.

Monitoring of Contractor Performance Did Not Meet Federal Acquisition Regulation Requirements

AFCEE Contingency Construction Division officials did not provide effective oversight of MILCON projects in Afghanistan. Specifically, AFCEE officials did not develop a formal process to monitor, assess, and document the quality of work performed by AECOM and GEITA personnel responsible for developing the construction contracts' SOR and performing technical reviews of proposals submitted by construction contractors. In addition, AFCEE officials contracted AECOM to perform the QA oversight of the MILCON projects at Camps Bastion/Leatherneck, but AFCEE officials did not implement a process to assess the quality or thoroughness of AECOM's performance.

Title I and GEITA Performance Needed Oversight

AFCEE officials did not provide oversight of Title I and GEITA personnel responsible for developing the construction contracts' SOR and performing technical reviews of proposals submitted by construction contractors. AFCEE officials contracted with

While AFCEE officials relied on GEITA personnel to provide technical expertise during development of the SOR, no AFCEE official or representative provided oversight of the GEITA personnel.

AECOM for the development of the SOR and contract specifications for construction task orders at Camps Bastion/Leatherneck. AFCEE officials stated after AECOM developed the SOR and contract specifications, GEITA personnel reviewed the SOR and contract specifications to ensure they met user requirements. AFCEE officials relied on

GEITA personnel's technical expertise to make sure that the SOR and specifications met those requirements. However, while AFCEE officials relied on GEITA personnel to provide technical expertise during development of the SOR, no AFCEE official or representative provided oversight of the GEITA personnel. Lastly, AFCEE officials did not develop a QASP to assist them in providing contract oversight.

According to the FAR, a COR assists in the technical monitoring or administration of a contract. AFCEE guidance states the COR is responsible for providing oversight of all contract personnel and that oversight should be documented in accordance with the surveillance plan. Without adequate oversight, AFCEE officials had no assurance that GEITA personnel properly performed their review of the SOR and contract specifications developed by AECOM. AFCEE officials should develop QASPs to guide their oversight and develop procedures to verify CORs conduct and document that oversight to verify the work performed is carried out in accordance with contract requirements.

AECOM's Title II Performance Lacked Oversight

AFCEE officials did not provide oversight of AECOM Title II personnel who were contracted to provide QA of construction projects at Camps Bastion/Leatherneck. AECOM personnel used a QA plan to monitor the construction contractors' performance. However, the AFCEE COR in San Antonio stated that he did not have a process with which to monitor AECOM's performance in providing that QA. The AFCEE COR in San Antonio also stated that he relied on the AFCEE construction contract CORs in Afghanistan to identify any issues with AECOM's performance. However, the AFCEE officer in charge at Camps Bastion/Leatherneck, who was also the AFCEE construction contract COR, stated he was not required to give performance feedback to the AFCEE COR in San Antonio regarding AECOM's performance. Furthermore, AFCEE officials in San Antonio had difficulty identifying the COR for the Title II contract. Lastly, AFCEE officials did not develop a QASP to assist them in providing contract oversight of AECOM's performance.

Without adequate oversight, AFCEE officials have no assurance that AECOM personnel conducted effective QA of construction projects at Camps Bastion/Leatherneck. DoD IG report D-2010-078, "Air Force Use of Time-and-Materials Contracts in Southwest Asia," August 16, 2010, previously identified AFCEE's lack of oversight of Title II contractor personnel and the lack of a QASP to guide its oversight. In response to that report, AFCEE officials stated that they drafted and implemented a Title II Quality Assurance Oversight Strategy to be used by in-country AFCEE CORs. However, we found that AFCEE officials did not implement this strategy in providing oversight of the Title II contractor responsible for quality assurance for one of the MILCON projects we reviewed.

Overreliance on Contractor Support Personnel

AFCEE officials stated that they relied completely on the technical expertise of AECOM for Title I and Title II services and GEITA personnel to monitor, assess, and document the quality of work performed by contractor personnel located at AFCEE San Antonio and Camps Bastion/Leatherneck. Therefore, AFCEE officials stated that they did not consider it necessary to develop QASPs to monitor the performance of these contractors. In addition, AFCEE officials stated the FAR requirement for a QASP did not apply to A-E services contracts. However, the FAR states that the extent and character of the work completed by the contractor is subject to the general oversight, supervision, direction, control, and approval of the Contracting Officer. In addition, the FAR does not state that A-E services contracts are exempt from, or in conflict with, the requirements of FAR Subpart 46.4 and its guidance on having a QASP.

AFCEE officials stated the FAR requirement for a QASP did not apply to A-E services contracts.

Significant Construction Deficiencies Were Not Identified

AFCEE's process for developing and reviewing contract requirements design was not adequate to prevent conflicting electrical standards from being cited in one MILCON contract's SOW and SOR and incorrect fire protection standards from being cited in two

MILCON contracts' SORs. In addition, AECOM's construction oversight was inadequate, and therefore, AFCEE officials did not identify life and safety deficiencies with two of the four MILCON projects we reviewed at Camps Bastion/Leatherneck. Further, Title II contractor personnel at Camps Bastion/Leatherneck did not identify deficient work. In addition, the deficient work at one facility contributed to over a 6-month delayed acceptance of the facility by AFCEE officials.

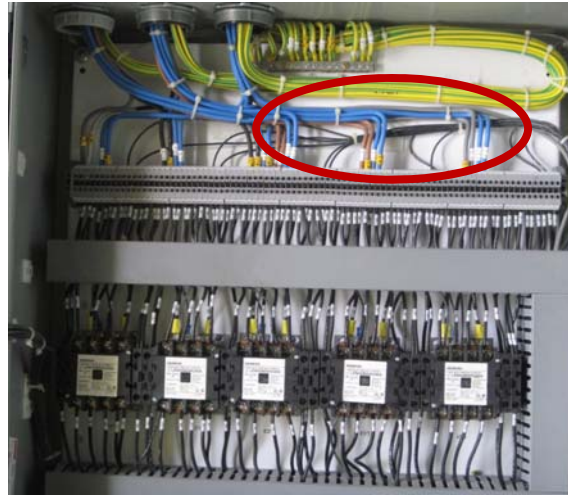
AFCEE Officials Issued Contract with Conflicting Electrical Standards

AFCEE officials issued a MILCON contract with technical requirements that called for conflicting electrical standards to be followed. Specifically, the Secure RSOI facility contract's SOW called for Lakeshore Engineering Services, Inc., the construction contractor, to use the National Electrical Code as the standard for all electrical work. The contract's SOR, on the other hand, stated that the contractor should use British electrical standards.

Sand Book Section 5-6.f requires that all electrical work comply with the host nation's code, the National Electrical Code, or British Standard 7671. However, according to the GEITA Project Manager, the construction contractor used both the SOW and SOR as their guidelines in performing the electrical work for the Secure RSOI facility. Since both the National Electric Code and British Standard 7671 were referenced in the contract's SOW and SOR, the contractor used different electrical standards when performing its electrical work. According to AFCEE officials, they did not discover the construction contractor was following two electrical codes until the construction was over 90 percent complete.

In May 2012, DoD IG TAD engineers performed an inspection of the Secure RSOI facility. TAD engineers determined that not all wiring in the Secure RSOI main switchboard, Panel PA, men's restroom, and junction box met either the National Electric Code or British Standard 7671 requirements, as modified by TF POWER Waiver #12-001. Specifically, TAD engineers noted multiple inconsistencies in the color coding of the electrical wires, as identified by the red circle in Figure 1. According to TAD engineers, the inconsistent application of color codes for grounded and ungrounded conductors can result in reverse polarity issues and expose personnel to shock hazards during future maintenance activities. As a result, the construction contractor's noncompliance with the electrical waivers placed a heightened risk of life and health safety in the operation and maintenance of the Secure RSOI facility. AFCEC and USFOR-A officials should assess the life and safety hazards identified at the Secure RSOI facility and determine the appropriate actions necessary to correct the electrical hazards.

Figure 1. Reverse Polarity Issues Can Expose Personnel to Shock Hazards



Source: DoD IG

Inadequate Quality Assurance Oversight of MILCON Contractor

As a result of AFCEE officials' inadequate oversight of the AECOM QA personnel at Camps Bastion/Leatherneck, AFCEE officials and AECOM QA personnel did not detect significant electrical deficiencies at the Secure RSOI facility. In addition, the TAD inspection found serious instances of noncompliance with electrical standards, such as mislabeled electrical panels, inconsistent color coding of wires, and exposed grounding wires.

Significant Electrical Deficiencies Not Detected

The AECOM QA Electrical Specialist noted only three electrical deficiencies in the Secure RSOI facility's QA Daily Reports. Those deficiencies were:

- electrical junction boxes did not have independent support;
- electrical metal tubing conduits were not secure with straps in various locations in the Secure RSOI facility; and
- lightning protection was not installed as per the 100 percent design drawing.

However, the Secure RSOI facility underwent multiple technical inspections upon construction completion that noted electrical deficiencies that were not found during the AECOM QA Electrical Specialist's daily QA oversight conducted over the construction period. In particular, on December 25, 2011, AECOM personnel performed a pre-final inspection of the Secure RSOI facility's electrical system. AECOM personnel found 21 electrical deficiencies.⁶ For example, a receptacle box was not securely fastened to the wall and panel boards, receptacles, and switches were not labeled.

⁶According to AFCEE officials, AECOM personnel inspected only 10 percent of the facility during their pre-final inspection.

On January 2, 2012, DynCorp, the operations and maintenance contractor for the Secure RSOI facility, performed an electrical inspection.⁷ The results of DynCorp's inspection detailed 29 electrical deficiencies. Subsequently, AFCEE officials requested that Task Force POWER⁸ conduct an inspection of the Secure RSOI facility to determine which electrical deficiencies identified by DynCorp impacted the life, health, or safety of building occupants or maintenance personnel. The Task Force POWER inspection report detailed 69 electrical deficiencies⁹ at the Secure RSOI facility and granted waivers to AFCEE for some of the deficiencies that it found to not impact life, health, or safety. The electrical deficiencies at the Secure RSOI facility contributed to over a 6-month delayed acceptance of the facility by AFCEE officials. However, the contracting officer issued a performance deficiency letter detailing AFCEE's issues with regard to the Secure RSOI facility construction. In addition, according to the Contingency MILCON and Minor Construction Branch Chief, AFCEE officials made an assessment of liquidated damages against the responsible contractor.

In May 2012, TAD engineers found that some of the waivers granted by Task Force POWER had not been fully complied with. In addition, TAD engineers noted serious instances of noncompliance with electrical standards, such as mislabeled electrical panels and inconsistent color coding of wires. TAD engineers also identified exposed grounding wires as shown by Figure 2. If ground wires are not protected, the integrity of the ground may be compromised, which placed personnel and equipment at risk.

Figure 2. Exposed Ground Wires Put Personnel and Equipment at Risk



Source: DoD IG

TAD engineers also found that light switches were not the correct size for the wire feeding the switch. The strands of wire were cut away to reduce the wire diameter so it would fit into the switch wire terminal. The red circle and arrow in Figure 3 shows this problem. According to TAD engineers, removing strands of wire to force it to fit into a smaller terminal than it was designed for will reduce the current carrying capability by an unknown amount and results in a fire hazard.

⁷An AFCEE official stated the purpose of the O&M inspection was for DynCorp to identify any deficiencies prior to their acceptance of the facility for future maintenance.

⁸Task Force POWER is the Task Force Protect Our Warfighters and Electrical Resources (POWER).

⁹The 69 electrical deficiencies detailed by the Task Force POWER report included multiple deficiencies that were systemic throughout the facility as well as duplicative instances of these deficiencies.

Figure 3. Cutting Strands of Wire Results in a Fire Hazard



Source: DoD IG

Noncompliance With Fire Protection Standards Caused Hazards to Life and Safety

AFCEE's process for developing and reviewing contract requirements design was not adequate to prevent incorrect fire protection standards from being cited in two contracts' SORs used during construction. Specifically, AFCEE officials improperly used Sand Book construction waivers to justify their decision to deviate from the applicable fire protection standards for two of the three projects we reviewed that required a fire sprinkler system.

Specifically, the Secure RSOI and Command and Control facilities do not have fire sprinkler systems as required by Unified Facilities Criteria 3-600-01, Section 4-2.2. Unified Facilities Criteria states that complete automatic sprinkler protection must be provided in all new or renovated DoD facilities except for certain non-mission essential buildings, and according to TAD engineers, that sprinkler protection would provide occupants protection and increased time for building evacuation. AFCEE officials characterized the Secure RSOI and Command and Control facilities as temporary construction projects,¹⁰ and stated that, as such, those facilities did not need fire sprinkler systems. Based on the justification provided by the Air Force on the DD Form 1391s for the Secure RSOI and Command and Control facilities as well as TAD engineers' assessment, we determined those buildings are mission essential. According to Unified Facilities Criteria, all mission essential buildings must have fire sprinkler systems, even if

¹⁰The Sand Book considers facilities constructed to a temporary standard are intended for use up to 24 months but may be used indefinitely.

those buildings are considered temporary. The lack of a fire sprinkler system in mission essential buildings with potentially high occupant levels, like the Secure RSOI and Command and Control facilities, significantly increases the risk to life and safety.

In addition, the Command and Control facility's means of egress does not comply with National Fire Protection Association 101, Section 7-7.2, which permits that a maximum of 50 percent of occupants may discharge through areas on the first floor. For example, the exit stairs from the second floor of the Command and Control Facility discharge through the common first floor corridor system. This layout combines the exits, thereby, providing only a single exit from the second floor. As a result, a fire in this corridor system can compromise the integrity of all second floor exits. A single means of egress from assembly occupancies¹¹ is not permitted. Single means of egress for the Command and Control facility significantly increases the risk to life and safety if occupants need to evacuate. AFCEC and USFOR-A officials should assess the life and safety hazards identified at the Secure RSOI and Command and Control facilities and determine the appropriate actions necessary to correct the fire safety and emergency egress deficiencies.

AFCEE Officials Notified of Hazards and Deficiencies

We notified AFCEE officials of the electrical hazards and fire safety and emergency egress deficiencies during a site visit to Afghanistan in May 2012 and again during a meeting held in June 2012. In October 2012, we requested information from AFCEC officials regarding actions they have taken to address the deficiencies and hazards identified. According to AFCEC officials, all electrical deficiencies at the Secure RSOI facility were corrected and last inspected by DynCorp personnel on October 23, 2012. In addition, AFCEC officials stated that additional strobe lights were installed in the Command and Control facility on October 15, 2012, and the fire department conducted its official fire alarm and functionality test on that same date and found no issues. AFCEC officials also stated that they planned to install additional egress doors on the second floor of the Command and Control facility. However, AFCEC officials stated they did not plan to install a fire suppression system in either the Secure RSOI or Command and Control facilities.

Conclusion

AFCEE's process for contract requirements design and construction oversight was not adequate to prevent conflicting electrical and incorrect fire protection standards from being cited in the construction contracts' SOW and SOR used during construction. In addition, AFCEE officials relied completely on the technical expertise of their contractor personnel and did not develop a formal process to monitor, assess, and document the quality of work performed by those contractor personnel. As a result, the life and safety of coalition forces who occupied the Secure RSOI and Command and Control facilities were at increased risk. To ensure effective government contract quality assurance, AFCEC officials should develop QASPs for the Title I, Title II, and GEITA contract task orders. In addition, AFCEC officials should develop procedures to verify CORs conduct

¹¹Assembly occupancy is a gathering of 50 or more persons.

and document appropriate surveillance of contractors as called for in the QASP, so as to ensure that work performed is carried out in accordance with task order requirements.

Management Comments on the Finding and Our Response

A summary of the comments from the Director, Joint Programs Integration Office, USFOR-A, on the finding follow, with our response. The complete text of the Director's comments can be found in the Management Comments section at the end of the report.

Comments on AFCEE Waiver

The Director, Joint Programs Integration Office, stated that the draft report referred to AFCEE Waiver #12-001, which is unrelated to the subject facilities of the draft report. He stated that TF POWER Waiver #12-001 issued a reprieve from NEC for the facilities that were built to British Standard 7671. However, he stated that TF POWER Waiver #12-001 does not apply to the 4 MILCON projects referenced by our report and was not a blanket waiver for all construction at Camps Bastion/Leatherneck.

Our Response

We agree that the waiver we were referring to was TF POWER Waiver #12-001 and revised the report. We also agree that the waiver does not apply to all four MILCON projects referenced by our report. However, based on evidence provided by AFCEE officials, the "Passenger Handling Facility" referenced by the waiver is the Secure RSOI facility, which was one of the four locations reviewed as part of the audit.

Recommendations, Management Comments, and Our Response

1. We recommend that the Director, Air Force Civil Engineer Center:
 - a. Develop quality assurance surveillance plans for the Title I, Title II, and Global Engineering, Integration, and Technical Assistance contract task orders.
 - b. Develop procedures to verify contracting officer's representatives conduct and document appropriate surveillance of contractors, as called for in the quality assurance surveillance plan, to ensure that work performed is carried out in accordance with the task orders.

Management Comments Required

The Director, AFCEC, did not comment on a draft of this report. We request that the Director provide comments in response to the final report by April 8, 2013.

Revised Recommendation

While we refer to the need for an electrical inspection of the Secure RSOI facility throughout the finding, we used an incorrect project number in Recommendation 2. As such, we revised draft Recommendation 2 to include the project number for the Secure RSOI facility.

2. We recommend that the Director, Air Force Civil Engineer Center and the Commander, U.S. Forces-Afghanistan assess the life and safety hazard identified at Military Construction Project 76916 and Project CMBA103400 resulting from noncompliance with electrical and fire protection standards. Based on the results, determine the appropriate action(s) to correct the fire safety and emergency egress deficiencies, as well as any remaining electrical deficiencies.

USFOR-A Comments

The Director, Joint Programs Integration Office, USFOR-A, agreed with the recommendation with comment. He stated that USFOR-A is conducting an assessment of the life and safety hazards identified at the Command and Control facility (Project 76916) and the Role 3 Medical Facility Expansion (Project 74291). In addition, he stated that TF POWER will perform an electrical safety inspection on both facilities on or before February 28, 2013. He also stated that TF POWER performed a fire safety inspection on February 8, 2013, in response to a user-generated request to accept the increased risk and occupy the Command and Control facility as is. Lastly, he stated that TF POWER forwarded a waiver request for the installation of a fire suppression system and directed the remediation of the fire egress deficiencies to limit the risk to occupants. He stated that USFOR-A is currently working with AFCEC to schedule and execute the egress enhancements.

Management Comments Required

The Director, AFCEC, did not comment on a draft of this report. We request that the Director provide comments in response to the final report by April 8, 2013.

Our Response

The Director, Joint Programs Office, USFOR-A, agreed with the recommendation, and his comments were responsive and met the intent of the recommendation. However, while we refer to the need for an electrical inspection of the Secure RSOI facility throughout the finding, we used an incorrect project number in the draft recommendation. Specifically, we referred to the Role 3 Medical Facility Expansion (Project Number 74291) instead of the Secure RSOI facility (Project Number CMBA103400). As such, we revised the recommendation and request that the Director provide comments with regard to whether he will also have an electrical safety inspection performed at the Secure RSOI facility.

Appendix. Scope and Methodology

We conducted this performance audit from March 2012 through January 2013 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

This audit is one in a series of audits on contract management and oversight of MILCON projects in Afghanistan. Our objective was to determine whether AFCEE officials provided effective oversight of construction projects in Afghanistan. Specifically, we determined whether AFCEE officials properly monitored contractor performance and adequately performed QA oversight responsibilities during construction in Afghanistan. We performed the audit at AFCEE offices in the U.S. and Camps Bastion/Leatherneck in Afghanistan.

We selected a nonstatistical sample of 4 of the 19 MILCON projects located at Camps Bastion/Leatherneck that were:

- initiated by the U.S. military for U.S. forces;
- approved on a DD Form 1391 and included an estimated program amount greater than \$5 million;
- funded under the annual Military Construction appropriation, a Military Construction supplemental appropriation (Global War on Terror or Overseas Contingency Operation), or Operations and Maintenance funds under Contingency Construction Authority; and
- at least 40 percent complete.

We reviewed the contracts for the following four AFCEE MILCON projects at Camps Bastion/Leatherneck (percent complete when contract chosen listed in parenthesis):

- Contract No. FA8903-06-D-8507-025, Project 76916, Command and Control Facility (72% complete)
- Contract No. FA8903-06-D-8511-076, Project 75462, Rotary Wing Parking (86-91% complete)
- Contract No. FA8903-06-D-8505-024, Project CMBA103400, Secure RSOI Facility (99% complete)
- Contract No. FA8903-06-D-8511-068, Project 74291, Role 3 Medical Facility (100% complete)

The team made two site visits to Camps Bastion/Leatherneck. During the first site visit from April 1 through April 7, 2012, we interviewed the projects' CORs, QA team members, project managers, Contractor QC team members, and the user for the Command and Control and Role 3 Medical facilities. We also performed walkthroughs of each construction site during the site visit. The team reviewed AFCEE QA reports and

compared them to the construction contractors' QC reports for indications of significant QC concerns, contractor work nonperformance or poor performance indicators, noncompliance with contractual requirements, or contractual disputes. We reviewed any significant deficiencies identified during the QA/QC inspections and determined whether they were resolved in a timely manner.

During a second site visit in May 2012, DoD IG TAD personnel performed walkthroughs of each construction site to assess the electrical and fire protection standards of the designated facilities on Camps Bastion/Leatherneck for compliance with applicable requirements and specifications. We also conducted a site visit to AFCEE Headquarters in San Antonio, Texas in June 2012. While at AFCEE San Antonio, we interviewed the contracting officers for the construction contracts and the Title II contract, CORs, and project managers.

Use of Computer-Processed Data

We did not use computer-processed data to perform this audit.

Use of Technical Assistance

DoD IG TAD engineers assisted with the audit. TAD engineers assessed the electrical and fire protection standards of the designated facilities at Camps Bastion/Leatherneck for compliance with applicable requirements and specifications. TAD simultaneously deployed one electrical and one fire protection team consisting of subject matter experts to assess four sites designated by the audit team to review whether those sites were in compliance with applicable electrical and fire protection standards. TAD engineers then documented all issues on finding forms with objective evidence including photographs.

Prior Coverage

During the last 5 years, the DoD IG and the Special Inspector General for Afghanistan Reconstruction (SIGAR) issued 8 reports, each discussing oversight of MILCON projects in Afghanistan. Unrestricted DoD IG reports can be accessed at <http://www.dodig.mil/audit/reports>. Unrestricted SIGAR reports can be accessed at <http://sigar.mil/auditreports.asp>.

DOD IG

DoD IG Report No. DODIG-2013-024, "U.S. Army Corps of Engineers Needs to Improve Contract Oversight of Military Construction Projects at Bagram Airfield, Afghanistan," November 26, 2012

DoD IG Report No. DODIG-2012-057, "Guidance Needed to Prevent Military Construction Projects From Exceeding the Approved Scope of Work," February 27, 2012

DoD IG Report No. D-2010-078, "Air Force Use of Time-and-Materials Contracts in Southwest Asia," August 16, 2010

DoD IG Report No. D-2009-031, “Afghanistan Security Forces Fund Phase III-Air Force Real Property Accountability,” December 29, 2008

DoD IG Report No. D-2008-119, “Construction Contracting Procedures Implemented by the Joint Contracting Command-Iraq/Afghanistan,” September 29, 2008

SIGAR

SIGAR Audit-12-3, “Afghan National Security University Has Experienced Cost Growth and Schedule Delays, and Contract Administration Needs Improvement,” October 26, 2011

SIGAR Audit-12-2, “Better Planning and Oversight Could Have Reduced Construction Delays and Costs at the Kabul Military Training Center,” October 26, 2011

SIGAR Audit-11-9, “ANA Facilities at Mazar-e-Sharif and Herat Generally Met Construction Requirements, but Contractor Oversight Should be Strengthened,” April 25, 2011

U.S. Forces-Afghanistan Comments



HEADQUARTERS
UNITED STATES FORCES-AFGHANISTAN
KABUL, AFGHANISTAN
APO AE 09356

USFOR-A JENG JPIO

18 February 2013


MEMORANDUM FOR Department of Defense, Office of the Inspector General, 4800 Mark Center Drive, Alexandria, Virginia 22350-1500

SUBJECT: Inadequate Contract Oversight of Military Construction Projects in Afghanistan Resulted in Increased Hazards to Life and Safety of Coalition Forces Project No. D2012-D000JB-0126.000

1. This memorandum is in response to the subject 29 January 2013 draft report provided to United States Forces – Afghanistan (USFOR-A) FOR REVIEW AND COMMENT. We appreciate the opportunity to comment on your audit and refer you to our response in the enclosures.

2. Point of contact is [REDACTED].

Encl
Recommendation Responses


ALVIN B. LEE
SES, DA CIVILIAN
Joint Programs Integration Office
United States Forces-Afghanistan

USFOR-A JENG JPIO

SUBJECT: Inadequate Contract Oversight of Military Construction Projects in Afghanistan
Resulted in Increased Hazards to Life and Safety of Coalition Forces Project No. D2012-
D000JB-0126.000

Recommendation Responses to DoDIG Draft Report – Project No. D2012-D000JB-0126.000

DODIG Recommendation 2:

We recommend that the Director, Air Force Civil Engineer Center and the Commander, U.S. Forces-Afghanistan assess the life and safety hazard identified at Military Construction Project 76916 and Project 74291 resulting from noncompliance with electrical and fire protection standards. Based on the results, determine the appropriate action(s) to correct the fire safety and emergency egress deficiencies, as well as any remaining electrical deficiencies.

USFOR-A Response:

Concur – USFOR-A is conducting an assessment of the life and safety hazards identified at the Command and Control Facility (Project 76916) and the Role 3 Medical Facility Expansion (Project 74291). The Command has already taken the following actions to address the identified hazards and where feasible mitigate risks:

- USFOR-A Task Force Protect Our Warfighters and Electrical Resources (TF POWER) will perform an electrical safety inspection on both facilities on or before 28 February 2013.
- In response to a user generated request to accept the increased risk and occupy the Command and Control facility as is, TF POWER performed a fire safety inspection of the Command and Control Facility on 8 Feb 2013.
- TF POWER forwarded a waiver request for the installation of a fire suppression system and directed the remediation of the fire egress deficiencies to limit the risk to occupants. USFOR-A is currently working with the Air Force Civil Engineer Center to schedule and execute the egress enhancements.

Additional Comment: USFOR-A would also like to clarify an inaccuracy in the draft report. Page eight of the draft report refers to AFCEE Waiver #12-001. This reference is unrelated to the subject facilities of the draft report. We believe AFCEE is referencing TF POWER electrical Waiver #12-001. This waiver issued reprieve from the 50 Hz facilities that meet British Standard 7671, as opposed to NEC 2008. However, this waiver does NOT apply to any of the four projects referenced in this DoDIG report. It only applies to the buildings listed in the subject line of Waiver #12-001. This waiver is NOT a blanket waiver for all construction at Bastion/Leatherneck. The TF POWER Waiver #12-001 is included for reference at enclosure 1.

Encl

TF POWER Waiver #12-001

Revised, page 14

Revised, page 8



**HEADQUARTERS
UNITED STATES FORCES – AFGHANISTAN
KABUL, AFGHANISTAN
APO AE 09356**



USFOR-A-TFP

19 March 2012

MEMORANDUM FOR RECORD for AFCEE Division Camp Leatherneck

SUBJECT: Waiver #12-001 for LNK Cargo Handling Area, Passenger Handling Facility, Ammo Storage Point/Munitions Storage Area, two Expeditionary Fighter Shelters, and Aviation Operation and Maintenance Facility.

1. The following are deficiencies waived from complying with the NEC 2008 and is limited to the Cargo Handling Area, Passenger Handling Facility, and Ammo Storage Point/Munitions Storage Area, two Expeditionary Fighter Shelters, and Aviation Operation and Maintenance Facility.

- a) **NEC 2008 (200.6):** ID of Grounded Conductors
 - i. Each facility utilizes a 50Hz electrical system. All grounded conductors are blue which is in accordance with BS 7671, Table 51 and does not pose a LHS hazard.
- b) **NEC 2008 (200.7):** Use of insulation of white or gray color
 - i. Each of the listed facilities utilizes a 50Hz electrical system. The conductor colors are in accordance with BS7671, Table 51 and does not pose a LHS hazard.
- c) **NEC 2008 (250.126):** Ground terminal identification
 - i. The 230V 50Hz devices used in the facilities have a ground terminal. The ground terminal is marked by an international recognized grounding symbol.
- d) **NEC 2008 (220.5 A):** Calculations (Voltages)
 - i. These facilities utilize 400/230V 50Hz electrical distribution and therefore should utilize the above listed voltages for calculations.
- e) **NEC 2008 (110.3 B, 110.6):** Identification, Installation/Conductor sizes
 - i. The cables utilized in these facilities are BICC Egypt cables, tested to IEC standards. An insulation resistance test was conducted to verify the integrity of the cables. The test concluded that the cables do meet the minimum insulation requirements of 10 MΩ/km. See attachment for test results

2. The following are deficiencies that are waived from complying with the NEC 2008 when the conditions listed below are met.

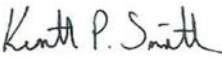
- a) **NEC 2008 (210.21 (B)(3):** Receptacle Rating
 - i. The current receptacles utilized in each facility are 13A rated and are consistent with 230V 50Hz systems.
 - ii. 13A receptacles may be used on the condition that the circuit is protected by a circuit breaker no larger than 16 amps.

USFOR-A-TFP
SUBJECT: Waiver #12-001 continuation

4. TF POWER is aware that the facilities included in this waiver are currently utilizing a 50 Hz distribution system. These facilities were designed and constructed in accordance with USCENCOM Regulation 415-7 2009 and before TF POWER Policy Letter #22. As a result these facilities should be inspected to the NEC 2008 with the understanding that the distribution system is 50 Hz instead of a typical 60 Hz system. This waiver authorizes a deviation to the code violations listed above. It is not a recommended practice and all future efforts must be made to improve new construction designs, scope of work and contractor oversight.

5. POC for this action is [REDACTED]
[REDACTED]

1 Enclosure
1. Test Results


KENNETH P. SMITH
Colonel, USAF
CHIEF TF POWER

From Main Distribution Panel "S-MDP" to Main Distribution Panel "R50-MDP" Feeder # 1							
Item	Phase To Phase	Cable Size	Cable Length	Megger Value at One minute MΩ (Range-Ohm)	One Minute MΩ/km	Megger Value at Two minutes (Range-Ohm) (Value rising)	DC Voltage
1	Line-1 To Line-2	240 mm ² (500 kcmil)	526m	336 MΩ (Range-Ohm)	237	330 MΩ (Range-Ohm) (Value rising)	1100 Volts
2	Line-2 To Line-3	240 mm ² (500 kcmil)	526m	336 MΩ (Range-Ohm)	237	328 MΩ (Range-Ohm) (Value rising)	1100 Volts
3	Line-3 To Line-1	240 mm ² (500 kcmil)	526m	283 MΩ (Range-Ohm)	518	325 MΩ (Range-Ohm) (Value rising)	1100 Volts
4	Line-1- Neutral	240 mm ² (500 kcmil)	526m	643 MΩ (Range-Ohm)	222	667 MΩ (Range-Ohm) (Value rising)	1100 Volts
5	Line-2- Neutral	240 mm ² (500 kcmil)	526m	465 MΩ (Range-Ohm)	266	350 MΩ (Range-Ohm) (Value rising)	1100 Volts
6	Line-3- Neutral	240 mm ² (500 kcmil)	526m	630 MΩ (Range-Ohm)	264	663 MΩ (Range-Ohm) (Value rising)	1100 Volts
From Main Distribution Panel "S-MDP" to Main Distribution Panel "R50-MDP" Feeder # 2							
Item	Phase To Phase	Cable Size		Megger Value at One minute	One Minute MΩ/km	Megger Value at Two minutes	DC Voltage
1	Line-1 To Line-2	240 mm ² (500 kcmil)	526m	31 MΩ (Range-Ohm)	595	177 MΩ (Range-Ohm) (Value rising)	1100 Volts
2	Line-2 To Line-3	240 mm ² (500 kcmil)	526m	377 MΩ (Range-Ohm)	337	217 MΩ (Range-Ohm) (Value rising)	1100 Volts
3	Line-3 To Line-1	240 mm ² (500 kcmil)	526m	218 MΩ (Range-Ohm)	414	254 MΩ (Range-Ohm) (Value rising)	1100 Volts
4	Line-1- Neutral	240 mm ² (500 kcmil)	526m	643 MΩ (Range-Ohm)	310	204 MΩ (Range-Ohm) (Value rising)	1100 Volts
5	Line-2- Neutral	240 mm ² (500 kcmil)	526m	367 MΩ (Range-Ohm)	317	208 MΩ (Range-Ohm) (Value rising)	1100 Volts
6	Line-3- Neutral	240 mm ² (500 kcmil)	526m	321 MΩ (Range-Ohm)	410	247 MΩ (Range-Ohm) (Value rising)	1100 Volts
Branch Circuit Insulation test R50 Building's castles panel							
Item	Phase To Neutral	Cable Size		Megger Value	MΩ/km	Time	DC Voltage
1	Phase To Neutral Circuit #14	6 mm ² (11.4 AWG)	95m	More than 100 MΩ (Range-Ohm)	5263	3 Minutes	280 Volts
2	Phase To Neutral Circuit #12	6 mm ² (11.4 AWG)	105m	More than 100 MΩ (Range-Ohm)	4762	3 Minutes	280 Volts
Megger Make: FLUKE, Model: 316556 Multifunction Tester.							



Inspector General Department of Defense